

ABSTRACT OF THE DISCLOSURE

5 A semiconductor laser capable of emitting in any one of
standard communication wavelengths is of great practical
value. To this end, a single semiconductor chip is fabricated
on which many different distributed feedback (DFB) lasers are
integrated. The device parameters of the different DFB lasers
are varied such that each laser emits at a different
10 wavelength. In addition a micro-mechanical optical element is
packaged with the laser array, such that the position of the
optical element controls which laser stripe is coupled to the
output fiber. The micro-mechanical element or switch in
various embodiments is a sliding waveguide, a movable lens, or
15 a mirror that tilts. By selecting the particular DFB laser,
controlling the temperature to fine tune the wavelength, and
adjusting the position of the micro-mechanical optical
element, the output wavelength is set to one of many
communication wavelengths.